

Study Guide

For use with pages 96–101

GOAL Solve equations using multiplication or division.**EXAMPLE 1** Solving an Equation Using DivisionSolve $9x = -108$.

$$9x = -108$$

Write original equation.

$$\frac{9x}{9} = \frac{-108}{9}$$

Divide each side by 9.

$$x = -12$$

Simplify.

Answer: The solution is -12 .

✓ Check $9x = -108$

Write original equation.

$$9(-12) \stackrel{?}{=} -108$$

Substitute -12 for x .

$$-108 = -108 \checkmark$$

Solution checks.

EXAMPLE 2 Solving an Equation Using MultiplicationSolve $\frac{k}{25} = 5$.

$$\frac{k}{25} = 5$$

Write original equation.

$$25 \cdot \frac{k}{25} = 25 \cdot 5$$

Multiply each side by 25.

$$k = 125$$

Simplify.

Answer: The solution is 125.**Exercises for Examples 1 and 2****Solve the equation. Check your solution.**

1. $3x = 3$

2. $8a = 32$

3. $-m = 5$

4. $7n = -49$

5. $-8b = 96$

6. $-3y = -27$

7. $\frac{m}{5} = 9$

8. $\frac{n}{12} = 5$

9. $8 = \frac{x}{7}$

10. $\frac{y}{5} = 1$

11. $-60 = \frac{c}{2}$

12. $\frac{j}{-8} = -3$

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EXAMPLE 3 Writing and Solving an Equation

If you divide your camera film equally over your 7-day vacation, you will take 25 pictures a day. How many exposures do you have?

Solution

Let e represent the number of exposures you have. Write a verbal model. Then use the verbal model to write an equation.

Total number of exposures

=

Number of pictures taken per day

Number of days

$$\frac{e}{7} = 25$$

Substitute values.

$$7 \cdot \frac{e}{7} = 7 \cdot 25$$

Multiply each side by 7.

$$e = 175$$

Simplify.

Answer: You have 175 exposures.

Exercises for Example 3

- 13.** Your parents divide money evenly among you and your three siblings. Each of you receives \$75. Find the total amount your parents gave.
- 14.** You purchase 9 yards of fabric. The total cost is \$45. Find the cost per yard of the fabric.